

REMARKS

Claims 4, 6, and 9 stand rejected under 35 USC 112, first paragraph. The Examiner states that the term “second crack initiator” is unclear because it is not mentioned in the specification. The Examiner’s attention is directed to page 12, lines 17 – 22, which clearly states that the second cutter 42 can be replaced a cutter that is similar or identical to the first cutter 40 including a crack initiator. A new Figure 3 has been submitted herewith showing such an arrangement.

Claims 1-18 stand rejected under 35 USC 112, second paragraph, as being indefinite stating that it is unclear from what the “‘first crack initiator’ is being disengaged from”. Claim 1 has been amended herein to overcome this rejection. The Examiner’s attention is directed to Page 4, line 26 through page 5, line 3, and page 6, line 23 through page 7, line 7. The crack initiator gradually disengages from the sheet material as crack propagation is driven by the low rake cutter base.

With regard to the Examiner’s question as to the timing of the steps of claims 2 and 3, the relevance of that question is unclear. The combination of the recited steps is what meets the criteria for patentability. Nevertheless, the “continuing to propagate” step of claim 2 follows the steps of claim 1, while the steps of claim 3 may occur simultaneously with any of steps (b) through (e) of claim 1.

Claims 1-6, 12, and 13-16 stand rejected under 35 USC 102(b) as being anticipated by Wohrstein et al. (US Patent 5,133,492). The Examiner’s application of Wohrstein et al. indicates that the Examiner has misconstrued its teachings. Wohrstein et al. teaches a device for separating thin-walled, multi-port micro-extrusions, typically aluminum structures. A clamping assembly is used to insert the knife edges into the planar surfaces of two opposing members of the aluminum structure. With the knives so inserted and the opposing members of the aluminum structure engaged by the two clamps, the two clamps are moved laterally in opposite directions thereby pulling apart the aluminum structure. See column 3, line 67, column 4, line 18, of Wohrstein et al. From this it can be seen that Wohrstein et al. is not cutting sheet material within the meaning of the

present invention. Wohrstein et al. teaches a method of separating a three-dimensional structure and therefore, there is no generation of a second crack in the second side of the sheet material. The second side of each opposing member is inside the structure and not accessible. Further, since the two opposing members are separated, it is not possible for the first crack to be propagated to intersect the crack propagating from the second cutter as required by the claims.

With regard to the Examiner's assertion that Wohrstein et al. teaches a first crack initiator having a height that is greater than a protective laminate on the first side of the sheet material, it is respectfully requested that the Examiner identify in the specification where such feature is taught.

It should also be appreciated that the knives of Wohrstein et al., which the Examiner has characterized as crack initiators, are always engaged with the opposing members of the aluminum structure. As amended herein, claim 1 recites that further propagating the crack using the rake edge of the cutter base thereby disengaging the first crack initiator from the sheet material. It is the further propagation of the crack that serves to disengage the initiator.

Claims 7-11, 17 and 18 stand rejected under 35 USC 103(a) as being unpatentable over Wohrstein et al.(US Patent 5, 133,492), in view of Takigawa, et al.(US Patent 4,709,480). The combination is one of non-analogous art. As mentioned above, Wohrstein et al. teaches a device for separating thin-walled, multi-port micro-extrusions, typically aluminum structures. Takigawa, et al. teaches a pair of hand-held scissors. Cutting is performed by the shearing action of the two blades moving toward one another. There is simply no teaching or suggestion in the references to combine them in the manner suggested by the Examiner. The respective tools of the two references work in distinctly different manners. One cuts by shearing with blades that move toward one another while the other acts to literally pull a three-dimensional structure apart. Neither teaches generating a crack with a crack initiator and then further propagating the crack with the cutter base. The Examiner has merely used the claims of the instant application as a roadmap. Therefore, in addition to all of the other flaws in the rejections as discussed above, the rejection of claims 7-11, 17 and 18 is based on hindsight. This is clearly evidenced by the Examiner's suggestion that the angles required by the claims are merely an obvious matter of design choice when the tools taught in the references applied by the Examiner function in completely

different manner from each other and from method taught in the instant application.

It is believed that the claims in the application are allowable over the prior art and such allowance is respectfully requested.

Respectfully submitted,



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Enclosures: New Figure 3
Letter to the Draftsperson (w/Formal Drawings)



APPARATUS AND METHOD FOR CUTTING SHEET MATERIALS
Inventors: Yeh-Hung Lai, et al, US Serial No. 10/611,017

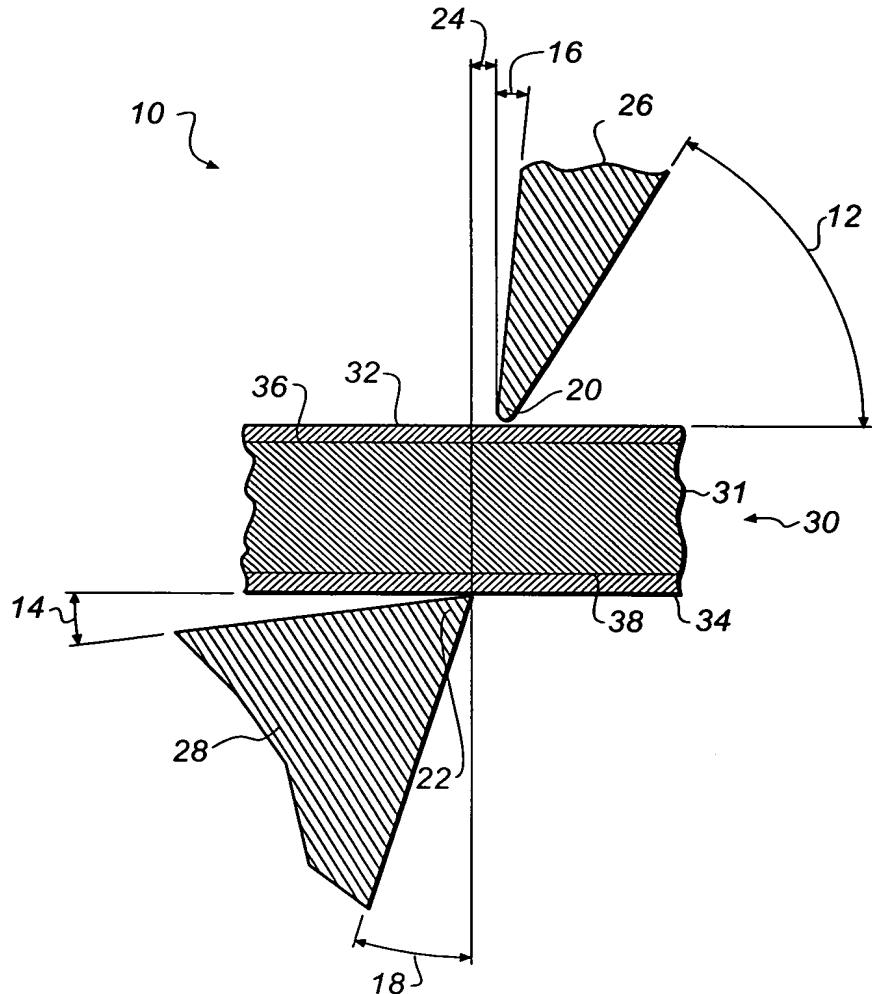


FIG. 1
(PRIOR ART)



APPARATUS AND METHOD FOR CUTTING SHEET MATERIALS
Inventors: Yeh-Hung Lai, et al, US Serial No. 10/677,017

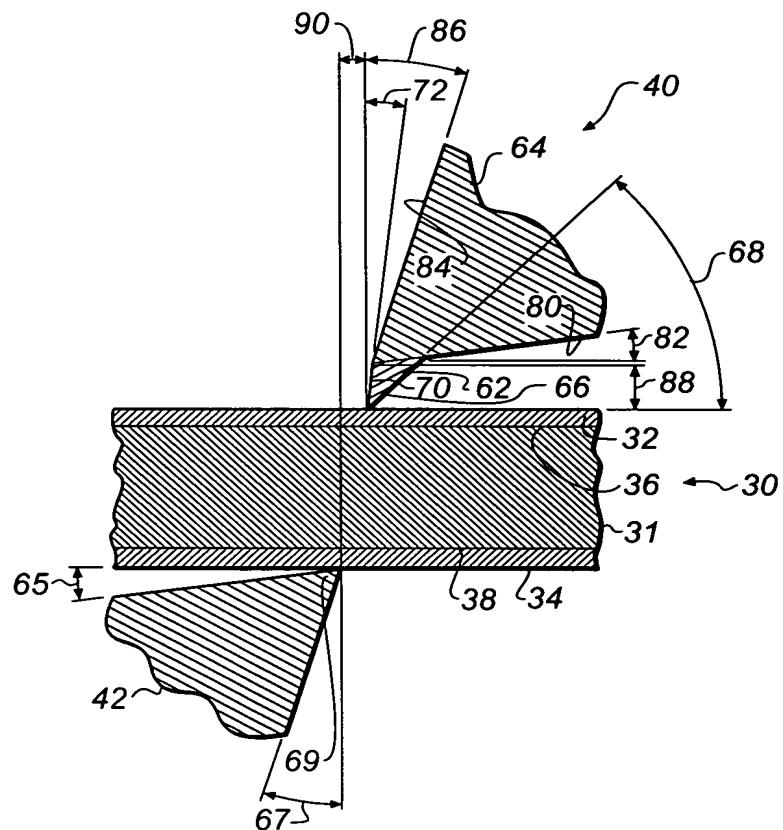


FIG. 2



APPARATUS AND METHOD FOR CUTTING SHEET MATERIALS
Inventors: Yeh-Hung Lai, et al, US Serial No. 10/657,017

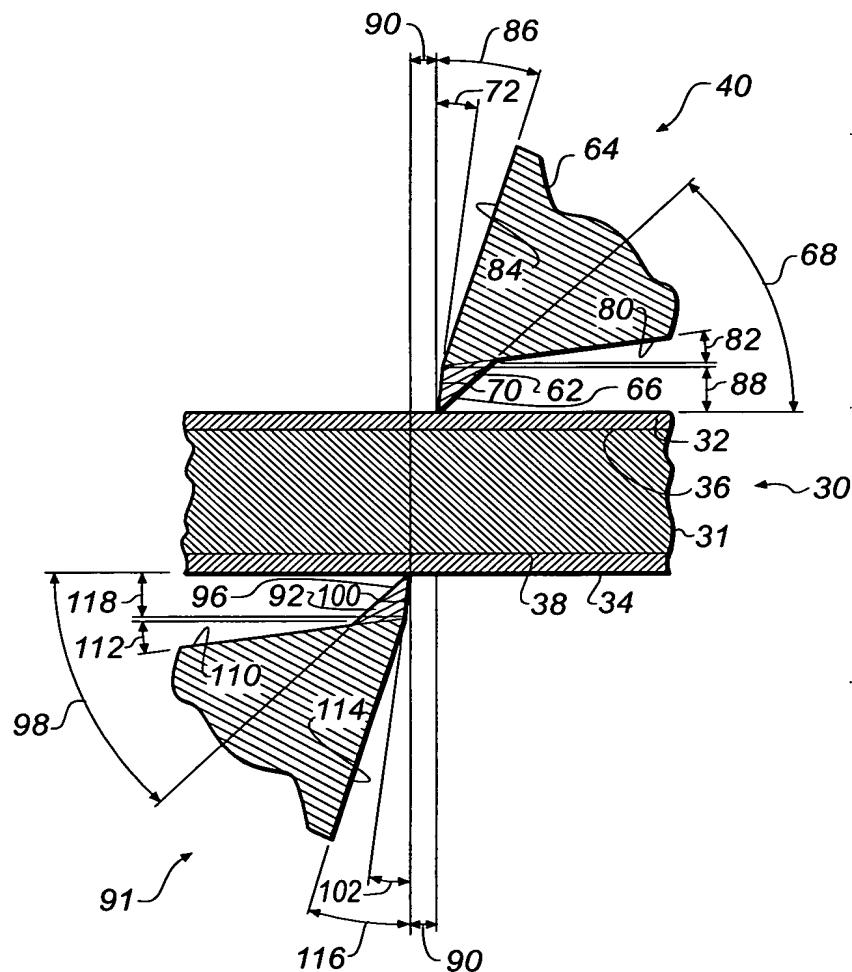


FIG. 3